



## 2d Supply Battalion



# II MEF FWD INFORMATION TECHNOLOGY OPERATIONS OIF 04-06

Colonel Pete Talleri  
[peter.j.talleri@usmc.mil](mailto:peter.j.talleri@usmc.mil)



## 2d Supply Battalion



*“ The MAGTF is breaking new ground by being able to track everything right down to the last tactical mile.*

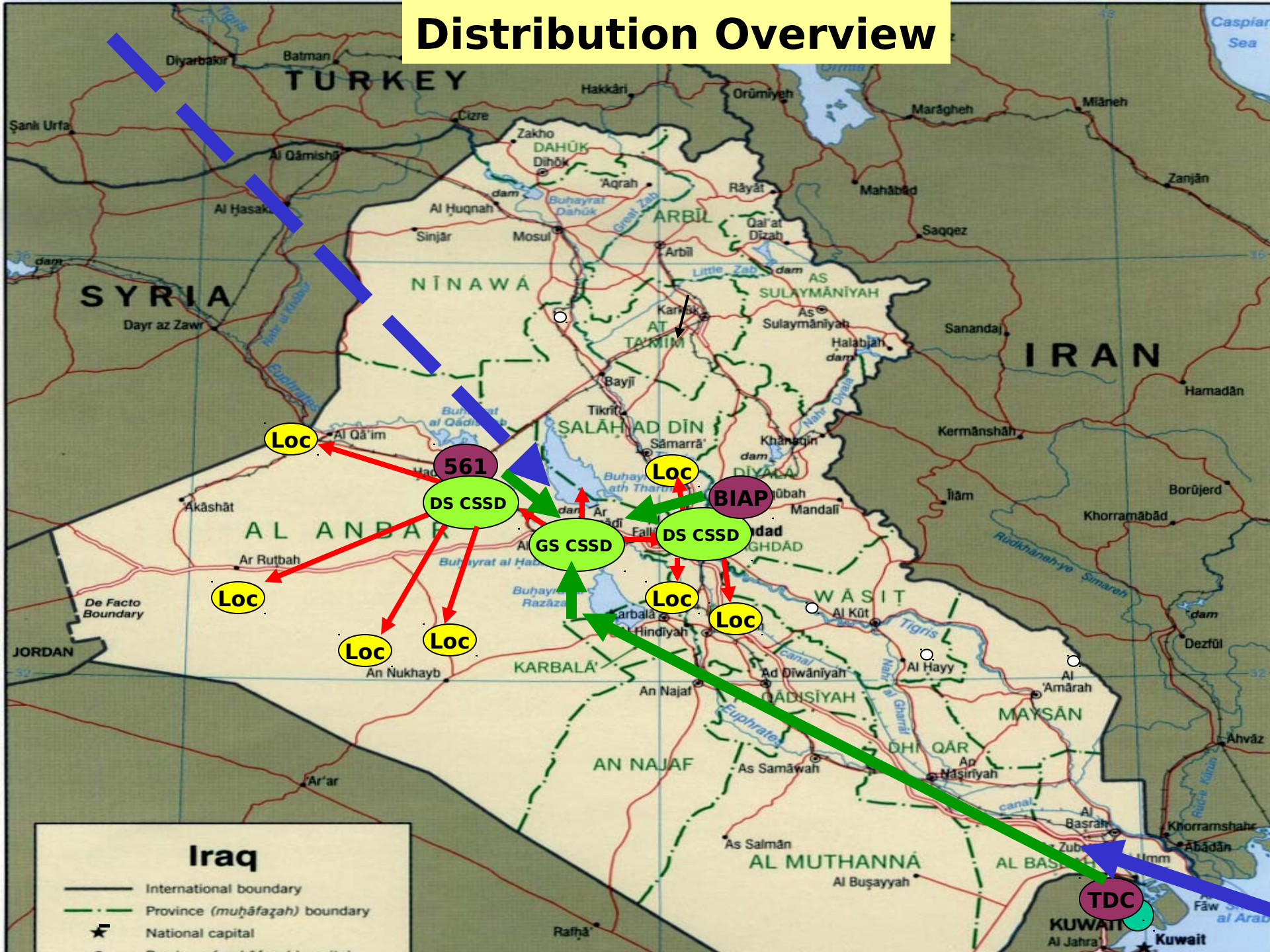
*The process that the Marine Corps is going through is coming together, and they are setting the stage for the rest of the services to follow suit.*

*The lessons learned are leading to greater capability in the joint fight.”*

09/11/16



# Distribution Overview





# Equipment Distribution

	MARCENT HQ	Liaison Cells
VSAT	?	?
BCS3	?	?

	DS CSS D	ACE
VSA T	3	1
BCS 3	3	15

	DS CSS D	DIV	MEF FWD
VSAT	1	1	0
BCS3	5	10	8

	GS CSS D	FSS G FWD
VSAT	2	1
BCS3	5	3



**Iraq**

- International boundary
- - - Province (muḥāfazah) boundary
- ★ National capital





## 2d Supply Battalion



# MAGTF Distribution Center

CWO2 Chris Douglas



## 2d Supply Battalion



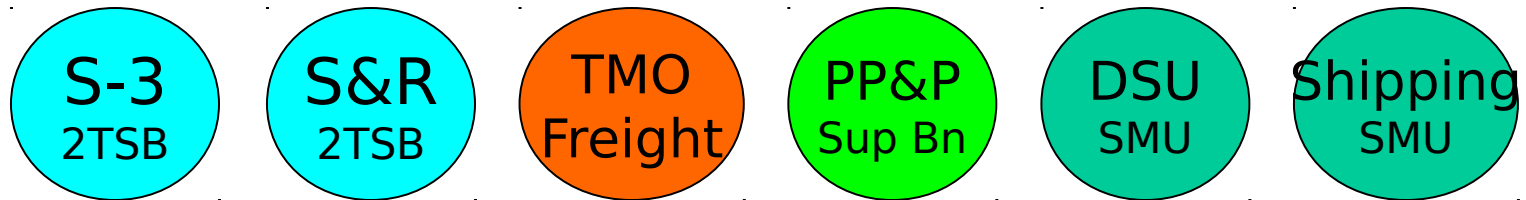
### MAGTF Distribution Center Mission

Provide a consolidated distribution focal point and facilitate in-transit visibility for II MEF in order to maintain throughput velocity and sustain operational tempo.



# MAGTF DISTRIBUTION COMPANY

## 2<sup>nd</sup> Supply Battalion



Old Organization

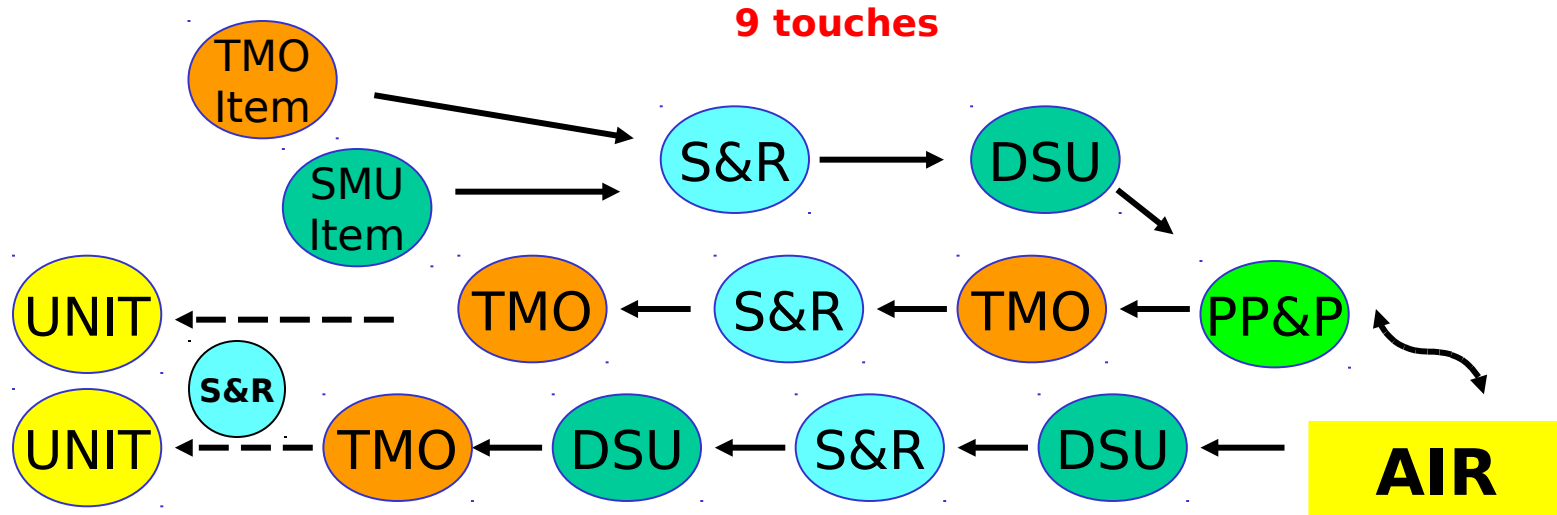
Current Organization

Operations  
Center

S & R  
Platoon

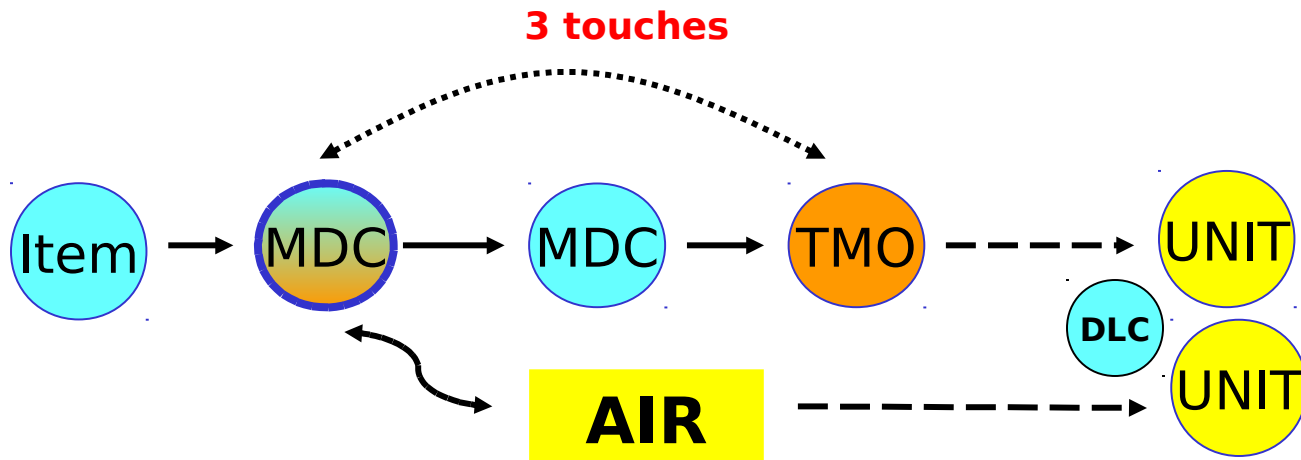
P3 (ISO)

## “Previous” DISTRIBUTION PROCESS MAP



---

## “Current” DISTRIBUTION PROCESS MAP

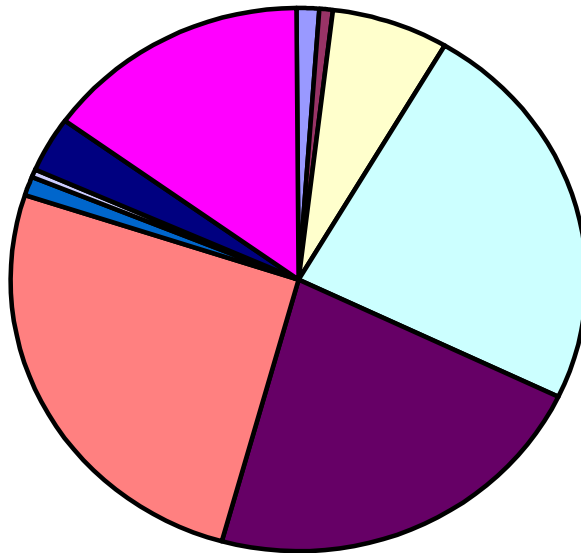






## 2d Supply Battalion

### MDC Company Table of Organization



0402/30xx	0431	3043	3051	3052
31xx	35XX	9999	Civilian	Unsourced



## 2d Supply Battalion



# Focus of Distribution

- Transparency
- Planning
  - Transportation
  - Supply
  - Distribution
  - Synchronization
- Visibility
  - Tags
  - Interrogators
  - Vehicle Tracking Systems
  - BCS3 - ITV Server & “Swivel Chair” Systems
- Influence
  - Routes
  - Pure Pallets
  - S&R
  - Distribution Liaison Cells

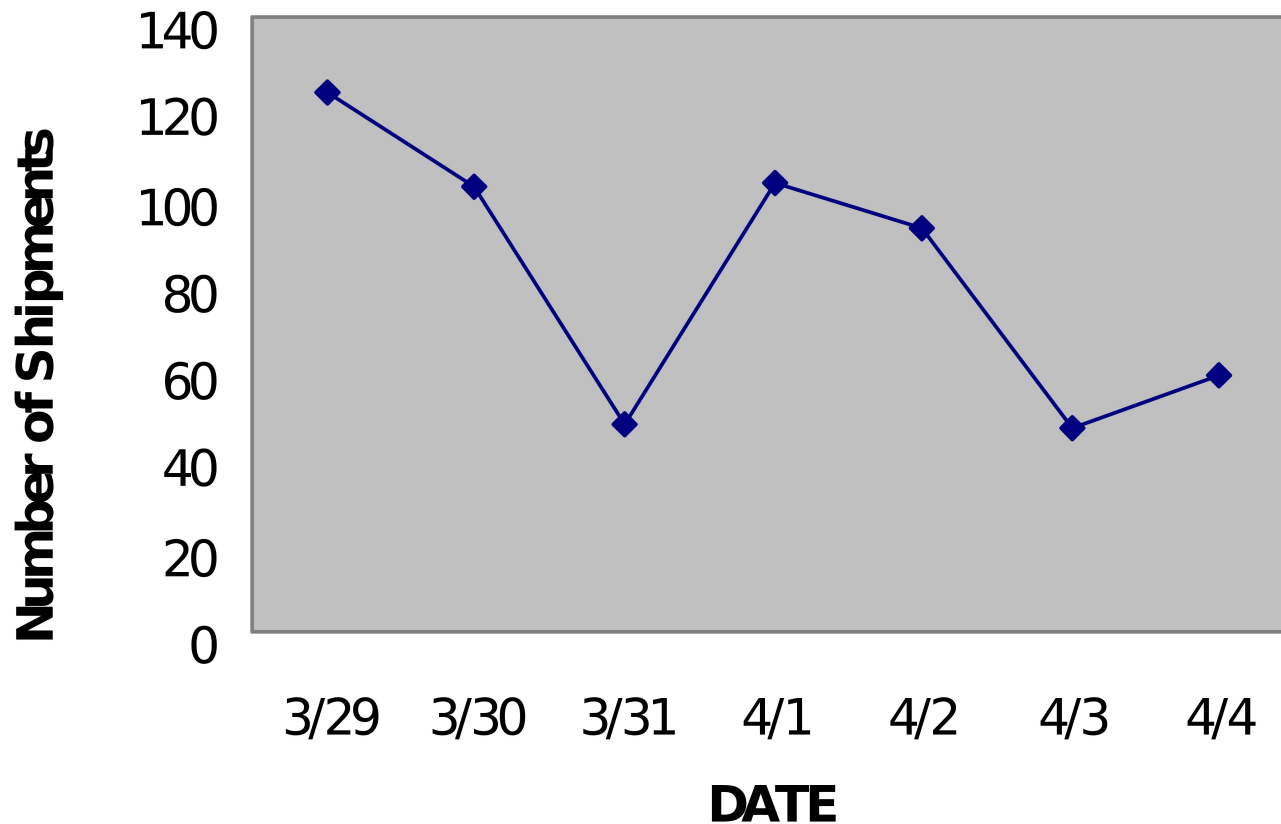




# 2d Supply Battalion



## DAILY RECEIVED REPORT

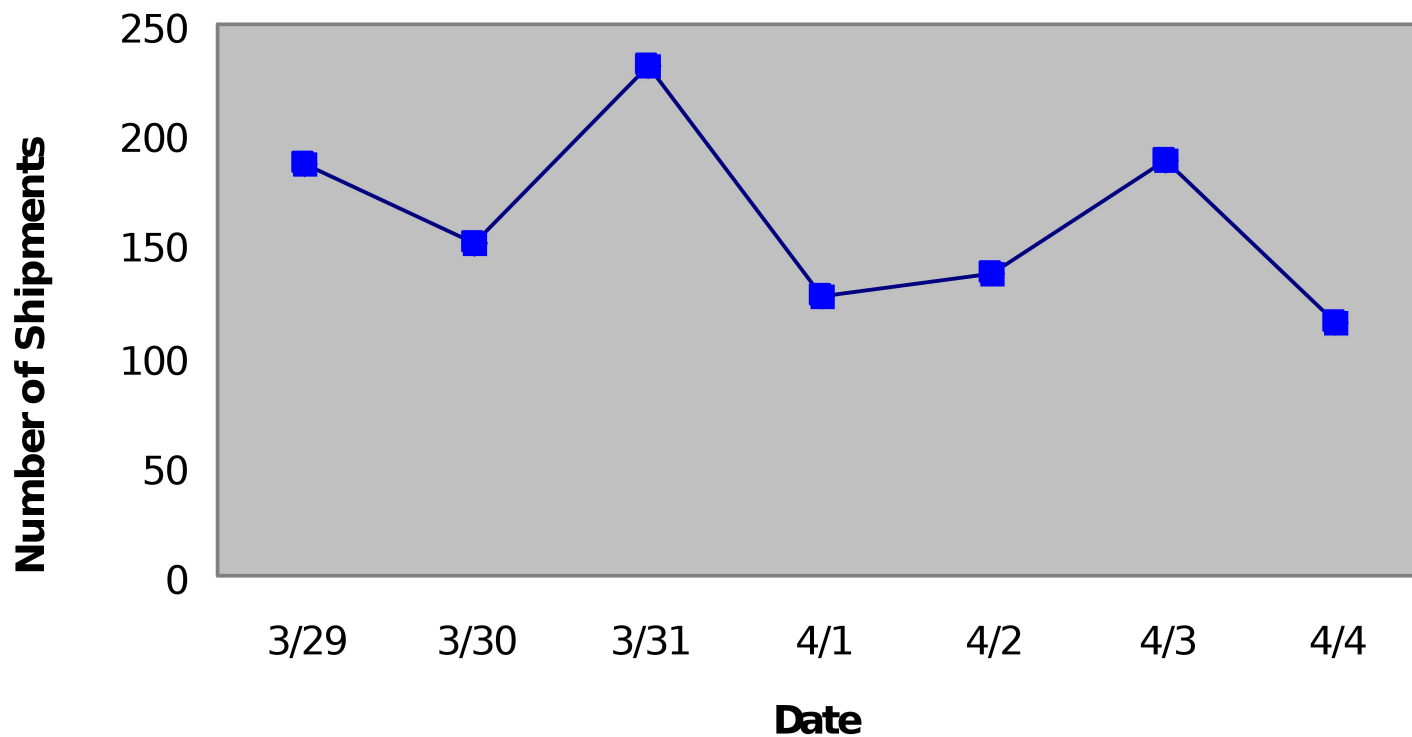




# 2d Supply Battalion



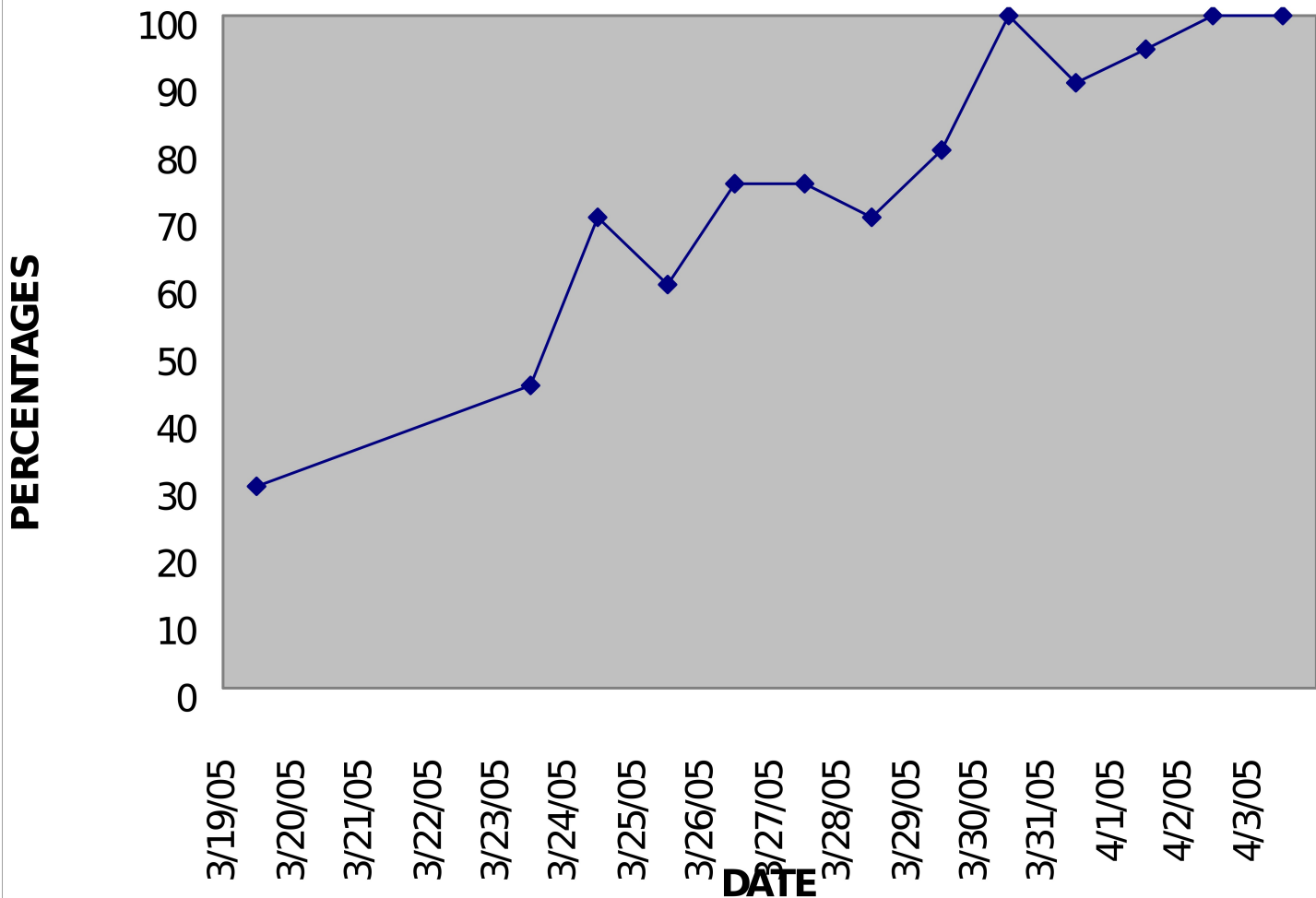
## DAILY OUTBOUND REPORT





# 2d Supply Battalion

## QC REPORT







## 2d Supply Battalion



# Focus of Distribution

- Transparency
- Planning
  - Transportation
  - Supply
  - Distribution
  - Synchronization
- Visibility
  - Tags
  - Interrogators
  - Vehicle Tracking Systems
  - BCS3 - ITV Server & "Swivel Chair" Systems
- Influence
  - Routes
  - Pure Pallets
  - S&R
  - Distribution Liaison Cells



## 2d Supply Battalion



# How to achieve distribution effectiveness?

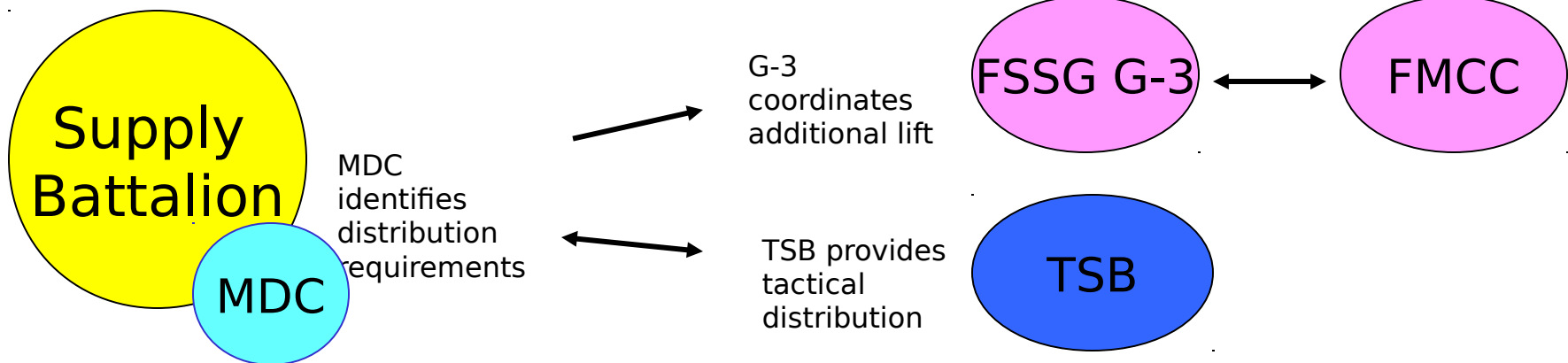
- **Unity of command and purpose**
  - "Train as we Fight"
  - ISO "Face of the MDC"
  - MDOC "Voice of the MDC"
- MDC responsible for distribution vice supported unit
- Maximize IT enablers
- Parallel process vice sequential process
- Leverage Base TMO capabilities



## 2d Supply Battalion

# MDC Relationships

- “Inventory is distribution moving at the speed of zero.”
- S&R, Transportation, Warehousing, Link to Procurement and Source of Supply (SMU, DSSC, MEDLOG, AMMO, HAZMAT, Rations)
  - TMO
  - FSSG G-3 LMCC
  - Contracting
  - TSB
  - MEF G-4





# 2d Supply Battalion



## IT Enablers

Capt Greg Pace





# 2d Supply Battalion



## LOG AIS HARDWARE CAPABILITIES

### Active RF 410 Tag - 128K 433.9 MHz Tag

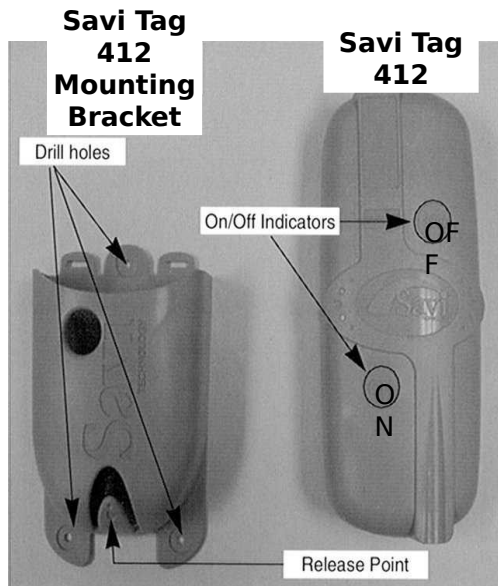
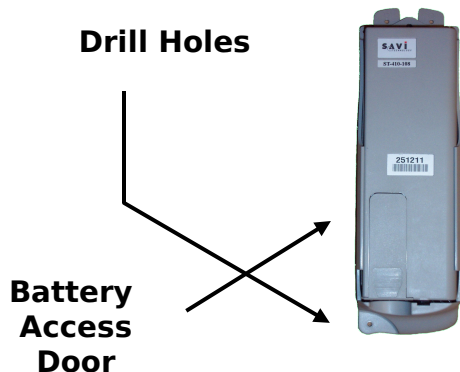
- Stores 1150 lines of data
- Data sent to In-Transit Visibility (ITV) server
- 3-5 year battery life
- Cost \$109 per tag
- Being replaced by SAVI 654 tag (\$70 per tag)

### Active RF 412 Tag

Battery operated

- 4KB read/write memory
- On/off capability

**To turn the 412 tag on and off, rotate the tag so the words "on" or "off" show in the hole in the mounting bracket.**





# 2d Supply Battalion

## RFID Readers



Fixed Interrogator

- Gain nodal ITV



Early Entry Deployment Support Kit (EEDSK)

- Port and Area Support RFID



Hand-held Interrogators

- Yard management and item searches



## 2d Supply Battalion

### Satellite Tracking Devices



Vistars

- Regional Coverage
- “Dumb Tracker”
- Used extensively throughout OIF



GPS Iridium Modem

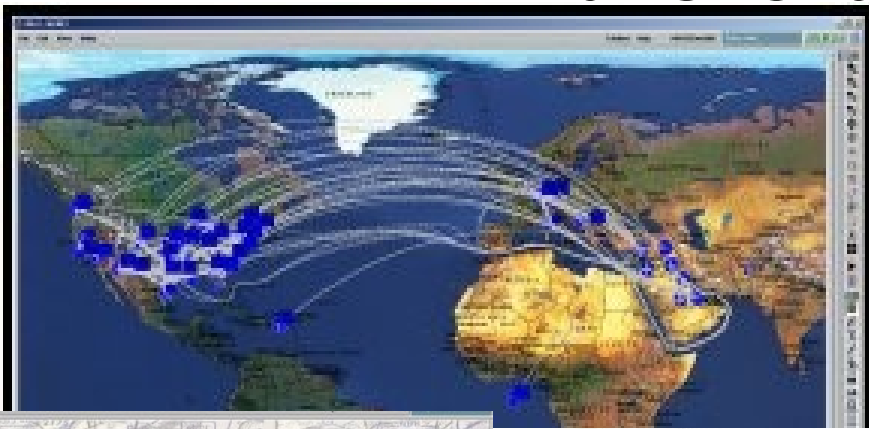
- Global Coverage
- “Dumb Tracker”
- Marine Corps “unique”



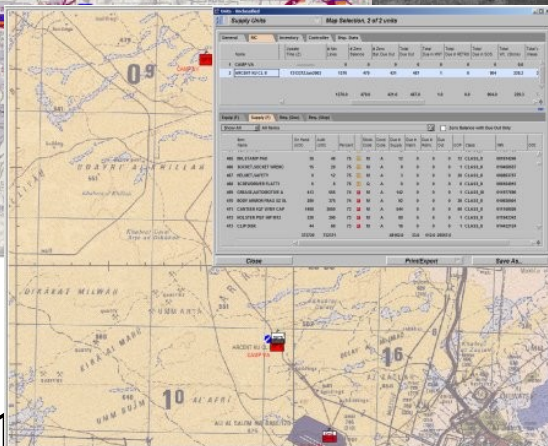
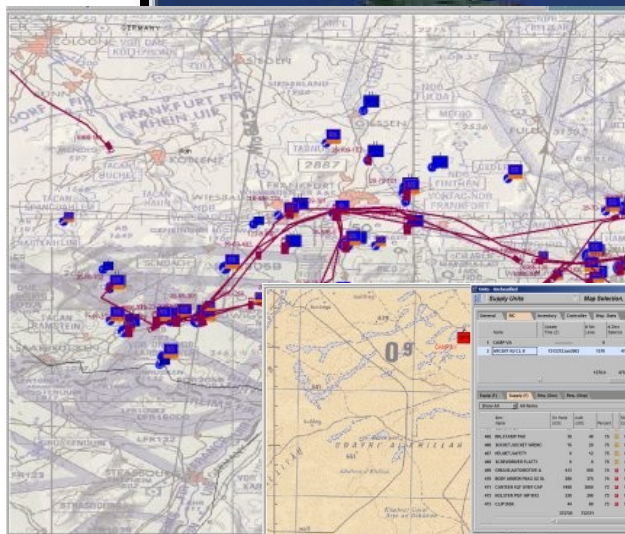
# 2d Supply Battalion

## Battle Command Sustainment Support System

### Functionality



- Map Based Views
- TPFDD Analysis
- Deployment Rehearsals
- ITV Tracking
- Supply Point Visibility
- Intelligent Agents
- March Credits

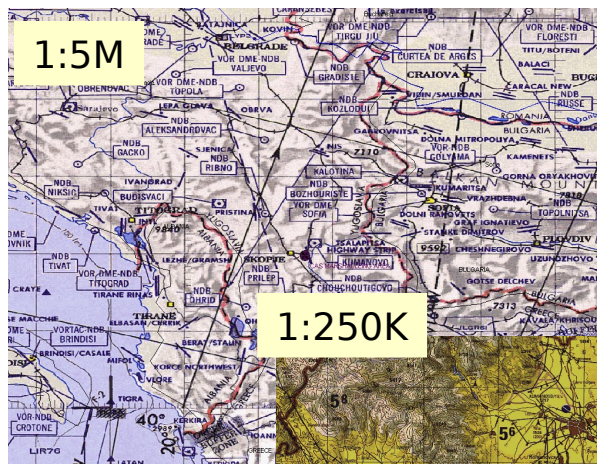




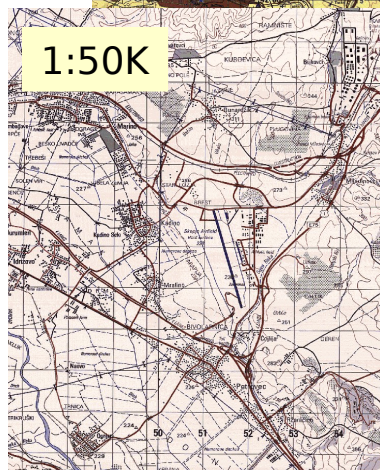


# 2d Supply Battalion

## BCS3 - Mapping Capabilities



1:250K



1:50K

1:10 meter



1:5 meter



### National Imagery and Mapping Agency

- Compressed ARC Digitized Raster Graphics (CADRG)
  - 1:5M meter to 1:50K meter scale
- Controlled Imagery Based (CIB)
  - 1:10 Meter to 1:1M Satellite Imagery
- Digital Terrain Elevation Data (DTED)
- Digital Vector Map - World View

**Note**  
1:1M images are  
Secret NOFORN

09/11/16

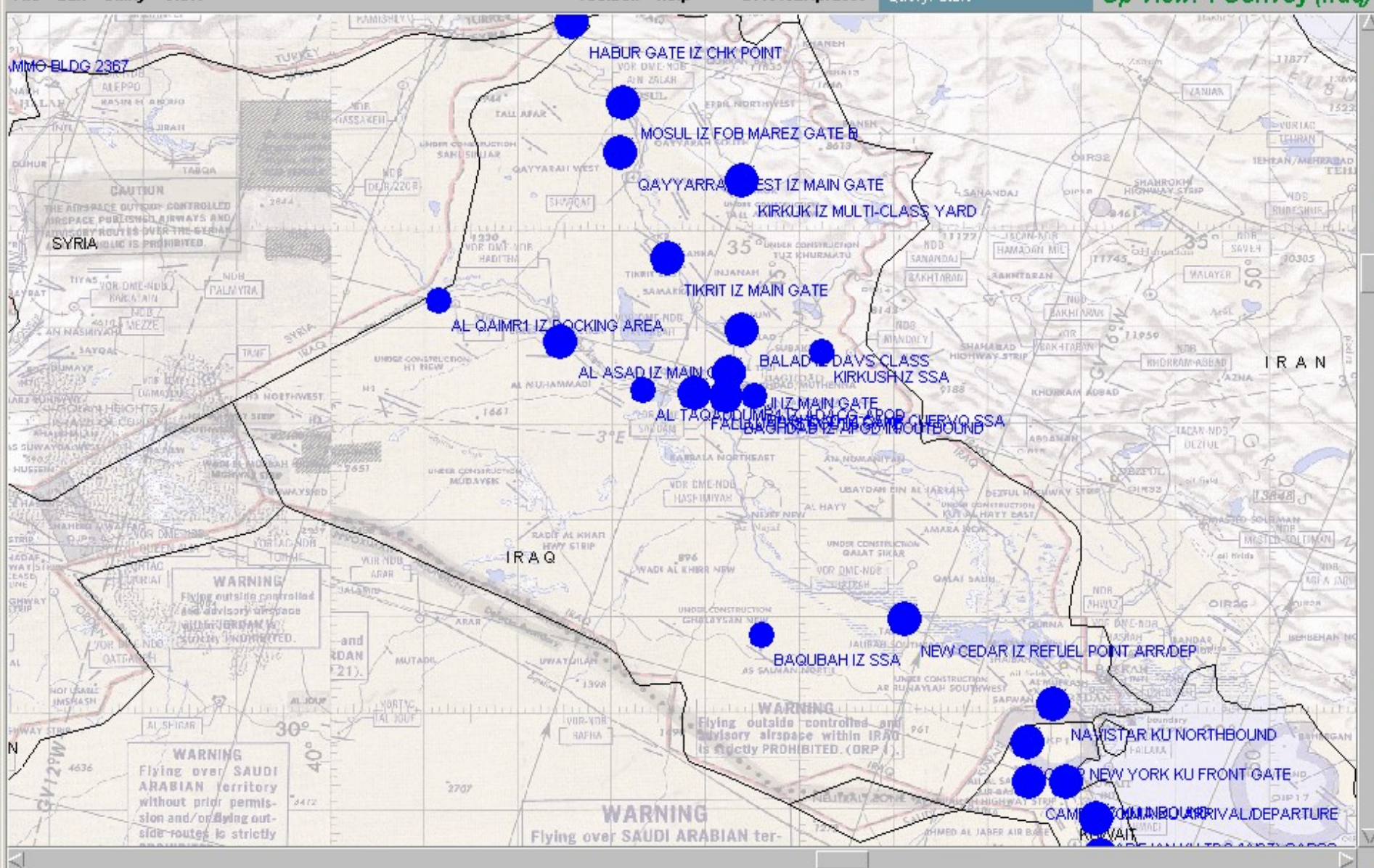
Increased interoperability  
through Standard NIMA

22





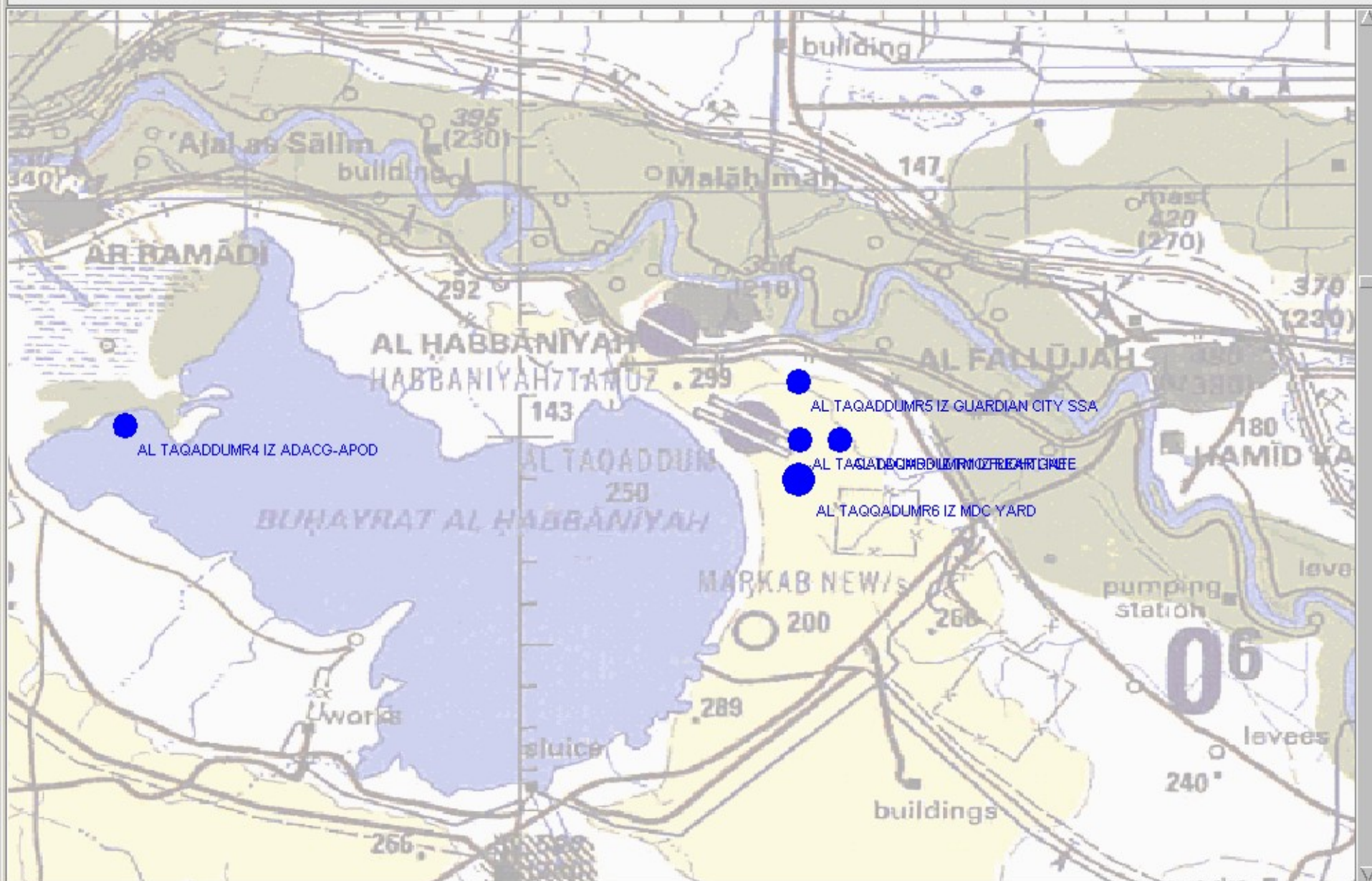




Selected 3 Interrogators.



## Op-View: Al Taqqadum





AL TAQQADUMR6 IZ MDC YARD

Selected 3 Interrogators.

38SLB71078558

I1 10M (1.14)



From Map All Items

Filter

Save As...

Save Selected...

View

	Name	Enabled	Last Report Time (Z)	Location (Milgrid)	Comment	Defn Time (Z)
1	23331	Yes	211919ZApr2005	38SLB712872	AL TAQQADUMR6 IZ MDC YARD	281359ZMar2005
2	25496	Yes	211722ZApr2005	38SLB712872	AL TAQADDUMR2 IZ SMU LOT	171225ZDec2004
3	25473	Yes	222056ZMar2005	38SLB712872	AL TAQADDUMR6 IZ MDC YARD	201101ZMar2005

Detections

Show All All Items

View



Export...

Print...

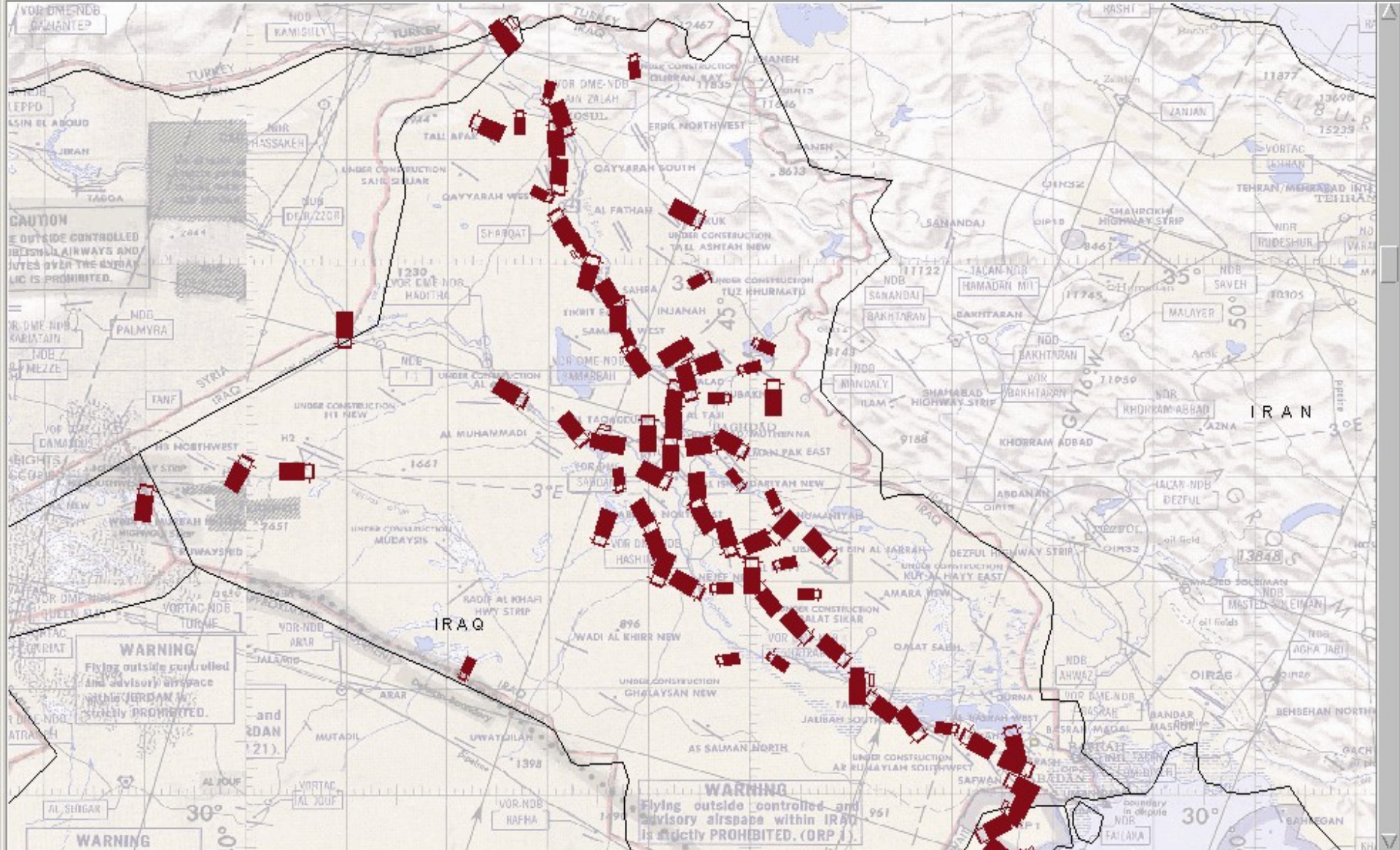
Properties...

	Time (Z)	RF Tag	Type
1	211919ZApr2005	<a href="#">1001806</a>	CONTAINER
2	152052ZApr2005	<a href="#">1002196</a>	CONTAINER
3	060157ZApr2005	<a href="#">1002829</a>	CONTAINER
4	061027ZApr2005	<a href="#">1002955</a>	CONTAINER
5	141822ZApr2005	<a href="#">1003233</a>	CONTAINER
6	061515ZApr2005	<a href="#">1004893</a>	CONTAINER
7	171451ZApr2005	<a href="#">1005027</a>	UNKNOWN
8	172321ZApr2005	<a href="#">1005608</a>	CONTAINER
9	061644ZApr2005	<a href="#">1006458</a>	CONTAINER
10	211500ZApr2005	<a href="#">1006711</a>	CONTAINER
11	060938ZApr2005	<a href="#">1007272</a>	CONTAINER
12	060549ZApr2005	<a href="#">1007712</a>	CONTAINER
13	070645ZApr2005	<a href="#">1007713</a>	UNKNOWN
14	170651ZApr2005	<a href="#">1007999</a>	CONTAINER
15	161352ZApr2005	<a href="#">1008158</a>	CONTAINER
16	070513ZApr2005	<a href="#">1008396</a>	CONTAINER
17	170651ZApr2005	<a href="#">1008473</a>	CONTAINER
18	160651ZApr2005	<a href="#">1008488</a>	CONTAINER
19	170651ZApr2005	<a href="#">1008493</a>	UNKNOWN
20	170651ZApr2005	<a href="#">1008494</a>	UNKNOWN
21	211430ZApr2005	<a href="#">1009553</a>	CONTAINER



Show All ▾		All Items					 	
Filter		Name	Lead TCN	Type	Is Active			
Save As...	1	1001806	<a href="#">M9432050660837XXX</a>	CONTAINER	Yes			
Save Selected...								
View ▸								

TCNs		Locations											
Show All		All Items										A [Print] [Refresh]	
View		Name	Lead	Active	Item	# Tag	RF Tag	Transponder	Reported Location	Report Time	Increment		
Export...	1	M9432050660837XXX	Yes	Yes		1	<a href="#">1001806</a>		38SLB711871	211919ZApr2005	<a href="#">M943205</a>		
Print...													
Properties...													

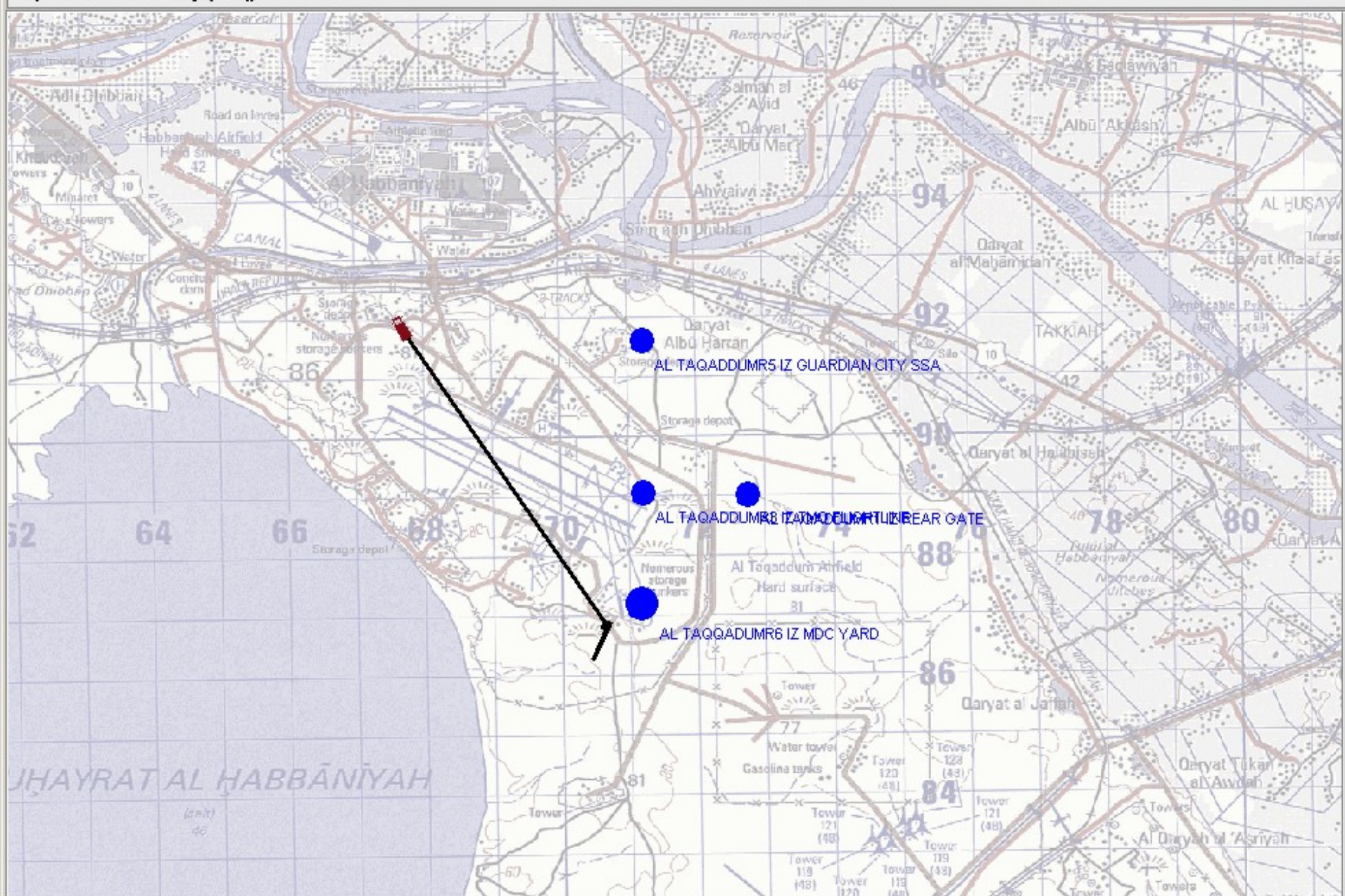


Selected 3 Interrogators.

39ST595509234

GN 1:5M (0.48)







# 2d Supply Battalion



## LTMITV-W2W

In-Transit Visibility to the Last Tactical Mile

*Warehouse to Warfighter*



## 2d Supply Battalion



# LTMITV-W2W Defined

- Simplified approach to enhancing visibility of supplies forward
- *Warehouse to Warfighter*
  - ‘Last-Mile’ visibility of supplies
  - Capture of delivery/consignee transactions



## 2d Supply Battalion



# What is Accomplished?

- Visibility from Warehouse to Warfighter
- Non-nodal location updates of materiel moving forward
  - Not dependent on nodal interrogators
- Electronic capture of consignee data at delivery point





# 2d Supply Battalion



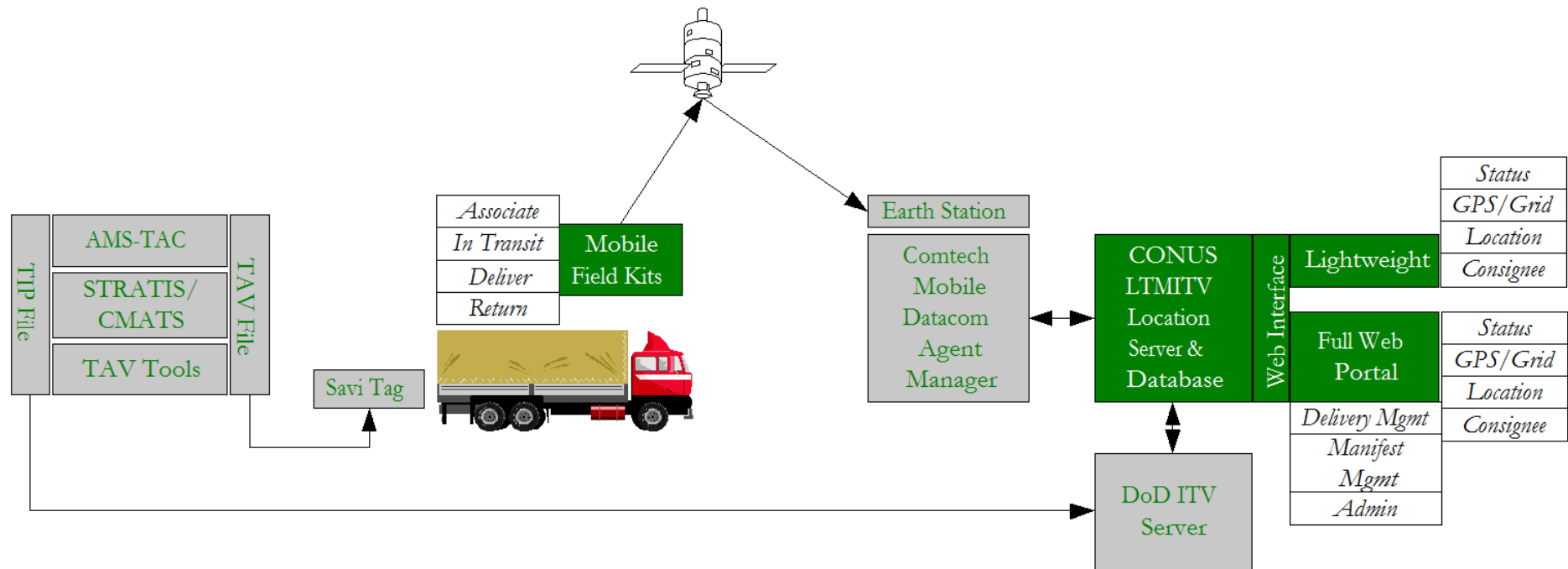
09/11/16

34



# 2d Supply Battalion

## Overview





## 2d Supply Battalion



# Functional Overview

- **Location Server**

- Receives and passes TIP files or content level detail from ITV
- From Field Kits:
  - Receives location (GPS) updates
  - Receives camp drop, RUC pickup and RUC delivery data
- Provides rich query and lightweight query alternatives via web interface
- Sends AS1 and AS2 80 card column courier file updates to USMC server for consumption based on in-garrison and theatre business rules

- **Field Kits**

- Tablet PC runs Visibility Tracking Program (VTP)
- At delivery preparation - input of PDC, AAC and Tag ID
- At Camp Drop, RUC Pickups and End RUC Deliveries
  - Mobile Kit - GPS updates and input of Tag ID and Consignee data
  - Fixed Camp Kit - input of Tag ID and Consignee data



## 2d Supply Battalion



# Location Server

- CONUS based server
- Rich web interface requires secure sign-in
  - Allows manifest (TIP file) upload
  - Shows shipment status and location updates
  - Provides query capabilities
- Secondary 'lightweight' web interface allows simple queries for end users with limited bandwidth
  - No graphics
  - Simplified query options and query returns





## 2d Supply Battalion



# Field Kit

- Tablet PC with power supply
  - Runs Visibility Tracking Program (VTP)
- Associated kit items
  - Barcode scan
  - GPS and data communications via satellite transceiver (USB connection to tablet)
  - Integrated cable for data communications and power
  - Power inverter for plug-in power for transceiver and tablet



## 2d Supply Battalion



# VTP

- Visibility Tracking Program
- Software application that runs on Tablet PC, which is part of a Field Kit
  - A few touch screen, most pen-based
  - Pen-based provide brighter screens
  - Includes graphic keyboard pop-up to allow entry of name/textual data via keyboard
  - Pen-based also provides additional means of handwriting recognition for input



# 2d Supply Battalion



VTP Main Menu

**Last Tactical Mile In Transit Visibility**  
*Warehouse to Warfighter* Version 1.0.1858.24279

**Status**

FIELD KIT #: 99999	LOCAL TIME: 1603	ZULU TIME: 2103
GRID: [NO FIX]	LATITUDE: [NO FIX]	LONGITUDE: [NO FIX]

**System Check** < Tests for VTP Readiness

**Start Route** < START a New Delivery Session (Prepare for your Route)

**RUC Delivery** < DELIVER Gear to Consignee RUC

**Camp Drop** < DROP Gear at Intermediate Location (NOT to Consignee)

**End Route** < END the Current Delivery Session

**Help** < Documentation and Help for the VTP

**Transceiver Load**



## 2d Supply Battalion



# VTP Key Features

- Correlates manifest data and Tag IDs with a field kit that is placed within a delivery/convoy vehicle
- Provides a means to query location and status of materiel pushed forward via a web interface
- Can be configured 2 ways:
  - Mobile unit on each supply convoy from warehouse
    - Direct RUC delivery
    - Intermediate camp drop
  - Fixed system at each camp
    - Capture subsequent RUC pickup from camp





## 2d Supply Battalion



# VTP Key Features (con't.)

- Relies on satellite transceiver and GPS to communicate data to Location Server
  - Designed to use minimal bandwidth
  - Same transceivers as MTS and BFT
  - Provides robust seamless satellite data communications to ensure data that is sent up is not 'lost in the ether'
  - All communications between Field Kit and Satellite are encrypted
- Does not depend on a localized server
- Tablet PC does not use mapping software- it is purely an input/filter for data up to the Location Server



# 2d Supply Battalion



## LAST TACTICAL MILE IN TRANSIT VISIBILITY

*Warehouse to Warfighter*

**Log In**

Username:

Password:

- [I meant to go to the DoD ITV web site](#)
- [I am a Using Unit with low bandwidth but would like to query LTMITV](#)

DoD  
ITV Server

Lightweight  
LTMITV

Log Out



# LAST TACTICAL MILE IN TRANSIT VISIBILITY

*Warehouse to Warfighter*

**Query**

Manifest View

Delivery Mgmt

Admin

Search

DOC NUMBER: MMX20051690001

NSN:

TCN:

Manifest Data

RUC:

Tag ID:

Last: 48 hours

SEARCH

RUC TAG

TCN

Items

Status

Last Position

Last Updated

<a href="#">MMX200 000000</a>	MMC10041710005XXX	13	Closed	38° 54' 36" N 77° 13' 12" W 18SUJ 07513 09132	2/3/2005 6:06:08 PM
-------------------------------	-------------------	----	--------	---	---------------------

Document Number

NSN

Nomenclature

UI

QTY

RIC

<a href="#">MMX20051690001</a>	5999010321692	ACCESSORY MAINT KIT TELE	EA	00003	MC1
--------------------------------	---------------	--------------------------	----	-------	-----

[MMX20051690002](#)

6625010906789

ADAPTER,TEST,POWER SUPPLY

EA

00004

MC1

[MMX20051690003](#)

5895012509557

CONVERTER,MODEM,SI

EA

00005

MC1

[MMX20051690004](#)

[MMX20051690005](#)

[MMX20051690006](#)

[MMX20051690007](#)

[MMX20051690008](#)

[MMX20051690009](#)

[MMX20051690010](#)

[MMX20051690011](#)

[MMX20051690012](#)

[MMX20051690013](#)

[MMX200 000001](#)

[MMX200 000002](#)

[MMX200 000003](#)

[MMX200 000004](#)

TagHistory - Microsoft Internet Explorer provided by AT&T WorldNet Service

TAG: 000004

Log Date	Position	Status
2/3/2005 6:17:37 PM	38° 54' 36" N 77° 13' 12" W 18SUJ 07513 09132	Closed
2/3/2005 6:17:36 PM	38° 54' 36" N 77° 13' 12" W 18SUJ 07513 09132	Delivered
2/3/2005 6:12:26 PM	38° 54' 36" N 77° 13' 12" W 18SUJ 07513 09132	Camp DropOff
2/3/2005 6:09:56 PM		In Transit
		Waiting for Details
		Pending



# 2d Supply Battalion



home - Microsoft Internet Explorer provided by AT&T WorldNet Service

File Edit View Favorites Tools Help

Back Forward Stop Search Favorites Media

Address <http://tmtv.sytexinc.com/LTMITVLW/> Go

Search Manifest

DOC NUMBER:  NSN:

Tag ID:  RUC:

TCN:

Search

home - Microsoft Internet Explorer provided by AT&T WorldNet Service

File Edit View Favorites Tools Help

Back Forward Stop Search Favorites Media

Address <http://ademo1.sytexinc.com/tmtv/vw/home.aspx> Go

Search Manifest

DOC NUMBER:  NSN:

Tag ID:  RUC:

TCN:

Search Reset

RUC TAG	TCN	Items	Status	Last Position	Last Updated
M28321 730764	M283214336T730764	17	Closed	33.35 N 117.41 W 61851 90164	12/2/2004 5:40:12 PM
Document Number	NSN	Nomenclature	UI	QTY	RIC
M2832143347281	2540014957611	SEAL, UPPER DOOR HIN	EA	00001	MC1
M2832143347291	2930014956890	FAN OPERATOR	EA	00001	MC1
M2832143356334	5330009668657	PACKING ASSORTMENT,	EA	00001	MC1
M2832143356336	5975005709598	STRAP, TIEDOWN, ELECT	HD	00001	MC1
M2832143356338	5970004194291	TAPE, INSULATION, ELE	RO	00001	MC1
M2832143356339	5940005250907	TERMINAL KIT	KT	00001	MC1
M2832143356354	6150010270125	CABLE ASSEMBLY, SPEC	EA	00001	MC1
M2832143356355	4820013988314	VALVE, CHECK	EA	00002	MC1
M2832143356390	6240001433070	LAMP, INCANDESCENT	EA	00004	MC1
M2832143356391	6240001536494	LAMP, INCANDESCENT	EA	00004	MC1
M2832143357323	5340012658911	HANDLE, DOOR	EA	00001	MC1
M2832143357329	5340011553798	LEVER, MANUAL CONTRO	EA	00001	MC1
M2832143357330	5310009752075	NUT, PLAIN, HEXAGON	HD	00001	MC1
M2832143357331	5340009850823	CLEVIS, ROD END	EA	00001	MC1
M2832143357332	5315008423044	PIN, COTTER	HD	00001	MC1

Done Internet

start Camp Pendleton... ITVLTM Brief US... 4 Internet Expl... 2:52 PM Monday

Lightweight Query

09/11/16

45





## 2d Supply Battalion



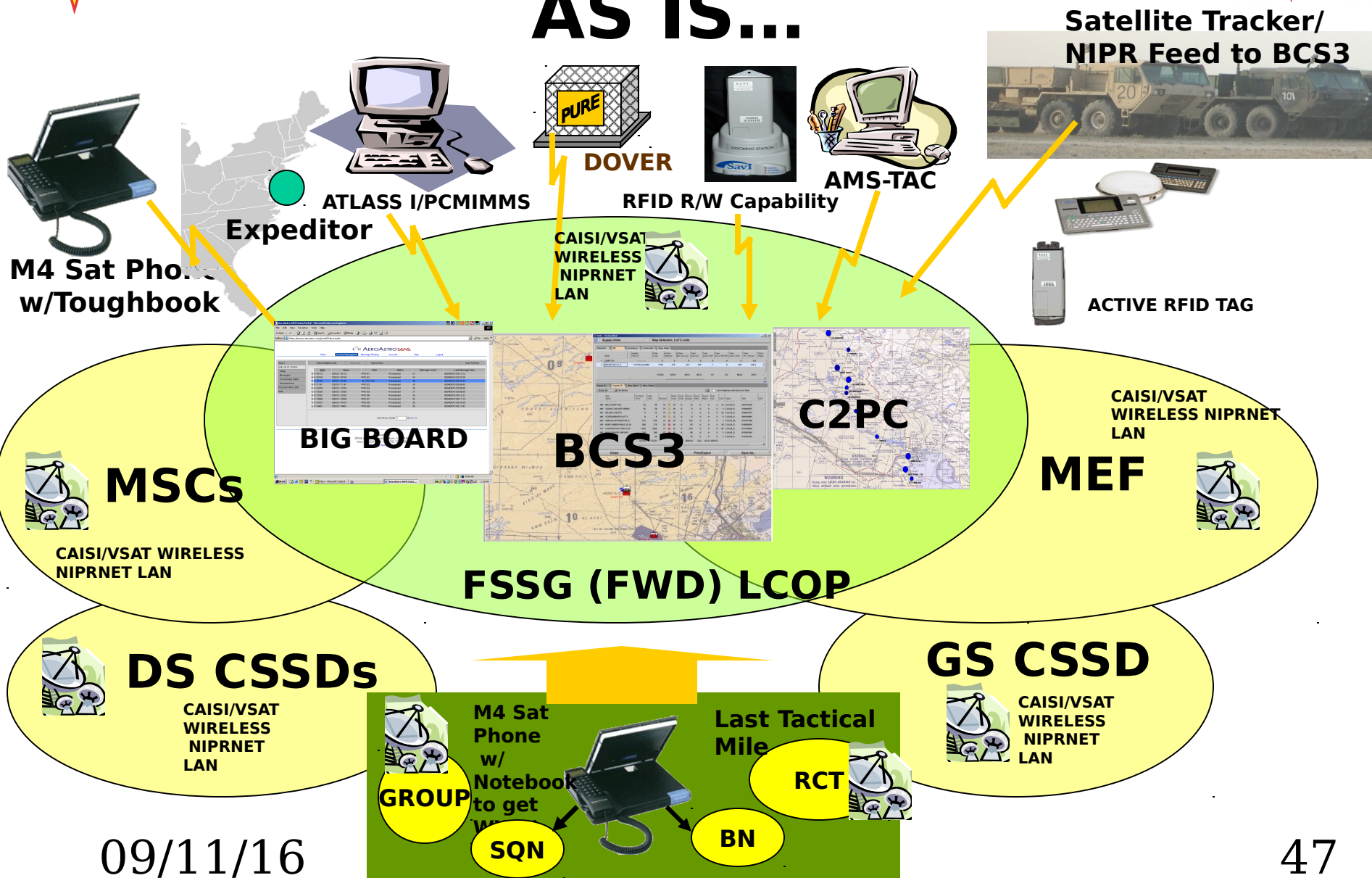
# Closing Remarks

Colonel Pete Talleri  
[peter.j.talleri@usmc.mil](mailto:peter.j.talleri@usmc.mil)



# 2d Supply Battalion

## AS IS...



09/11/16



## 2d Supply Battalion



# Road Ahead...

- II MEF LMI's "fixed" lessons learned from:
  - Gulf War (no visibility / iron mountain)
  - OIF (limited Visibility from Strategic to Operational / no LOG C2)
  - OIF II (no visibility at the last tactical mile / no DPO)
  - OIF III (lesson-learned: too much visibility / "base-line" new metrics)
- MAGTF (FWD) ITV supports GCSS-MC / Sea Basing
  - ITV from Strategic to LTM (using correct OA)
  - Logistics Comm Pipes (broadband speed / encrypted)
  - MAGTF Distribution Center (DPO)
  - QUADRENNIAL DEFENSE REVIEW "A" List
- DUSD (AT&L) Briefing 18 May 05
  - MAGTF confidence (no reordering / efficient & effective distribution pipeline)
  - RFID "Passive" technology (cheaper)
  - USMC Leading the way!







## 2d Supply Battalion



The next generation active RFID tag is the ST-654. This tag has the same capabilities of the existing 410 RFID tag, but is only 6.25" x 2.125" x 1.125". This tag will be used in the same manner as the existing 410 tag described above. The NSN for this tag is 6350-01-523-1998. The battery used in this tag is not compatible with the 410 tags – it is product number BAT-1125, CLIN X009CB.

### Features:

- 128Kbytes or 240Kbytes Memory
- Lithium Battery is easily replaced using a coin or screwdriver - no dismounting required
- 433 MHz, active RFID technology with up to 300-foot range for monitor, wake-up, and RF write/read.
- 123 kHz receiver for slot level, choke point tag wake-up and short range commissioning.
- Small-form-factor design, ideally suited for shipping containers, vehicles and other large assets. (6.25-in. x 2.12-in. x 1.125-in.)
- Built in buzzer for tag location.
- Rugged, weatherproof design.
- Fast 28 Kbps data rate powered by lithium battery.
- Built-in firmware database, designed for rapid searching by readers for specific items stored in the tag's memory.